



# Public Notice

U.S. Army Corps of Engineers, Norfolk District  
Commonwealth of Virginia, Department of Natural Resources

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October 24, 2003

**Virginia Department of Conservation and Recreation  
Virginia Department of Environmental Quality  
Chesapeake Bay Local Assistance Department  
Norfolk District, Corps of Engineers**

**How to Best Consider Low Impact Development Practices and Other  
Innovative Stormwater Management Practices in the Review of Proposed  
Development Projects**

Conventional stormwater design practices for residential and commercial developments seek to maintain the rate of runoff at pre-development levels. Oftentimes, this goal is achieved through the construction of stormwater management facilities in waters and/or wetlands. Conventional stormwater management detains some of the increased volume of water caused by increased impervious surfaces and releases it at a lower rate. Mostly, stormwater management ponds control peak discharge rates for certain storm events. However, a greater volume of runoff is released for a longer duration. The ponds associated with many conventionally-designed developments may adversely affect waters and wetlands both upstream and downstream through filling, backwater, and flooding.

One of the many goals of local, state, and federal regulatory programs is to insure that development is designed in a way that minimizes its impacts on waters and wetlands. A workgroup of representatives from all three levels of government has been discussing the best ways to achieve these goals while creating a review process that is predictable and timely for the regulated public.

Recently, more innovative designs have been developed with the goal of mimicking the pre-development runoff characteristics on a development site. This methodology and design, called Low Impact Development (LID) Practices, attempts to minimize impervious cover and conserve natural cover, replicate the pre-development runoff volume and timing, and replicate the pre-development runoff rate which are the three primary elements of a natural hydrograph. These goals are achieved through use of such options as permeable surfaces for parking areas, residential lot setbacks, minimizing roadway widths where possible (taking into account fire and emergency vehicle access requirements), narrower sidewalks, selective clearing, flattening grades, disconnecting impervious surfaces, infiltration practices, amended soils, open, vegetated swales, and distributed versus concentrated runoff. The incorporation of LID practices has been shown to reduce infrastructure costs, downstream erosion, inspection and maintenance costs,

risks associated with open water, and increase pollutant removal and groundwater recharge in some case-specific studies. However, it requires greater construction oversight and often more detailed site plans. LID may be used to reduce downstream erosion and better protect stream stability by treating runoff at the source.

While Virginia has no known local, state or federal prohibitions in law, regulations, or guidance that preclude the use of LID practices, it must be understood that all sites are not suitable for every LID practice. Some sites may not be able to achieve the full replication of hydrologic function due to limitations on implementing the full suite of LID practices. These limitations can be due to constraints on site design, economic constraints, and/or to site geomorphology (e.g., soil permeability, depth of the water table, and slope). Furthermore, and more importantly, the use of LID practices may not completely preclude the need for conventional stormwater controls.

Incorporation of LID practices, where appropriate and practicable, into site designs can both reduce impacts to waters and wetlands as well as reduce the infrastructure, maintenance, and mitigation costs to developers. We believe the attached worksheets can provide the basis for determining the feasibility of using low impact development practices. Review agencies will consider incorporation of LID as measures to avoid and minimize impacts to waters and wetlands.

Before we initiate action to request that LID be considered in the design of all developments or develop any guidance, we want to provide the opportunity for the public to provide us with their comments. Hence, we are scheduling five public workshops (pending sufficient pre-registration) on the following days and locations:

December 3, 2003  
10:00-4:00  
County of Henrico  
Eastern Government Center  
3829 Nine Mile Road  
Richmond, Virginia

December 4, 2003  
9:30-3:30  
Fairfax County Government Center  
12000 Government Center Parkway  
Fairfax, Virginia

December 8, 2003  
10:00-4:00  
Hampton Roads Planning District Commission  
723 Woodlake Drive  
Chesapeake, Virginia

December 10, 2003  
10:00-4:00  
Albemarle County Office Building  
Main Auditorium  
401 McIntire Road  
Charlottesville, Virginia

December 11, 2003  
10:00-4:00  
Virginia Department of Environmental Quality  
3019 Peters Creek Parkway  
Roanoke, Virginia

Available information on low impact development practices can found at

<http://for.communitypoint.org/pages/download.htm>  
<http://www.epa.gov/owow/nps/urban.html>  
<http://www.lowimpactdevelopment.org>

The workshops will provide an opportunity for

1. the signatory agencies to provide an overview of existing program requirements.
2. the signatory agencies to provide an overview of low impact development practices and the attached worksheets.
3. the public to ask questions concerning topics 1 and 2 and the signatory agencies to seek comments on the use of these development practices.

Public comment will aid us in insuring that we address all issues related to implementing a review process that considers LID practices in the design of development sites. Once we have completed the review, we will sponsor additional technical workshops to discuss the calculations required in the consideration of low impact development practices.

If you would like to attend one of these workshops, please complete the attached registration form and either email or fax it to Bruce Williams at the Norfolk District, Corps of Engineers at [bruce.f.williams@usace.army.mil](mailto:bruce.f.williams@usace.army.mil) or 757.441.7678. If you have any questions, you may call him at 757.441.7418.

/s/

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Yvonne J. Prettyman-Beck  
Colonel, Corps of Engineers  
Commanding

/s/

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W. Tayloe Murphy, Jr.  
Commonwealth of Virginia  
Secretary of Natural Resources

## **Low Impact Development Workshop Registration Form**

1. Workshop you plan to attend

\_\_\_\_\_ in Richmond  
\_\_\_\_\_ in Northern Virginia  
\_\_\_\_\_ in Chesapeake  
\_\_\_\_\_ in Charlottesville  
\_\_\_\_\_ in Roanoke

2. Name, Address, Telephone Number & email address of your Company, Agency, or Organization:

3. Name of Attendees:

This form can be emailed to [bruce.f.williams@usace.army.mil](mailto:bruce.f.williams@usace.army.mil) or faxed to (757) 441-7678